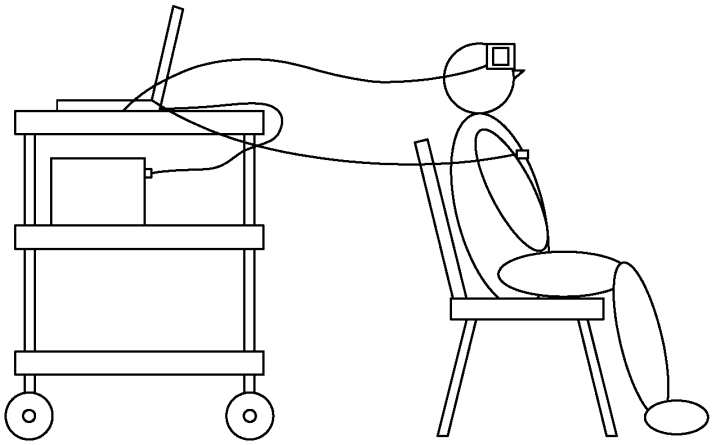


FIG. 1

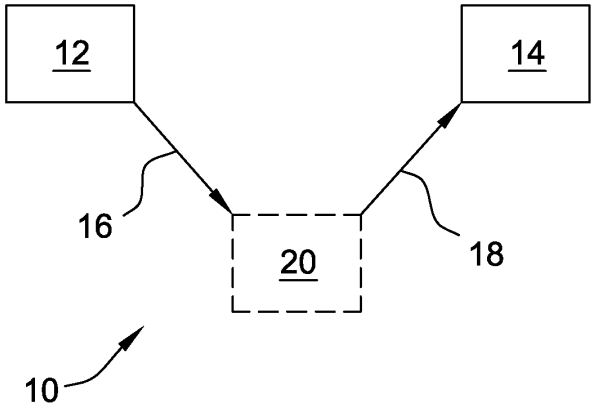


FIG. 2

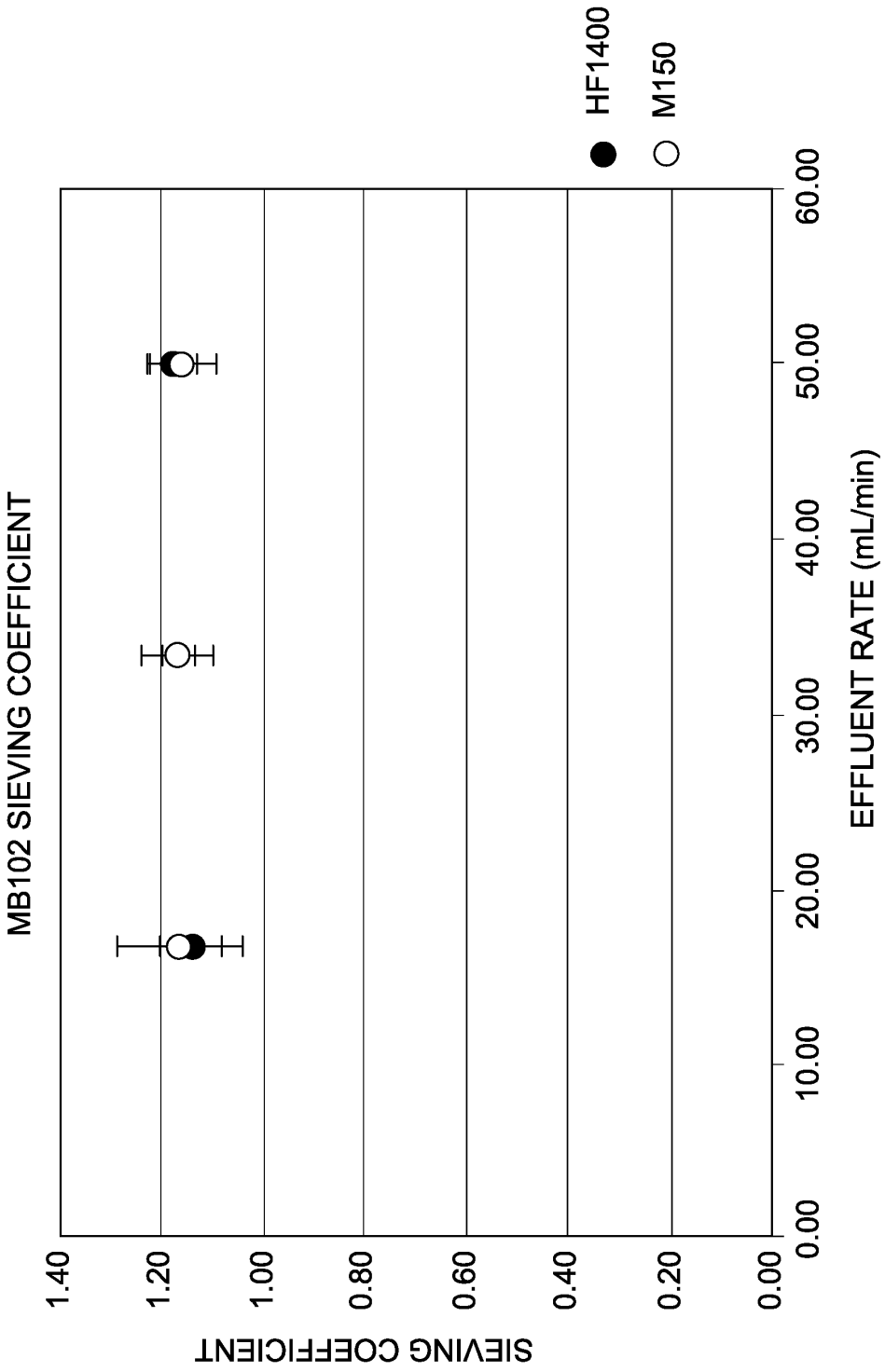

MB102 SIEVING COEFFICIENT
HF1400
M150
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
SIEVING COEFFICIENT
0.00
10.00
20.00
30.00
40.00
50.00
60.00
EFFLUENT RATE (mL/min)

FIG. 3

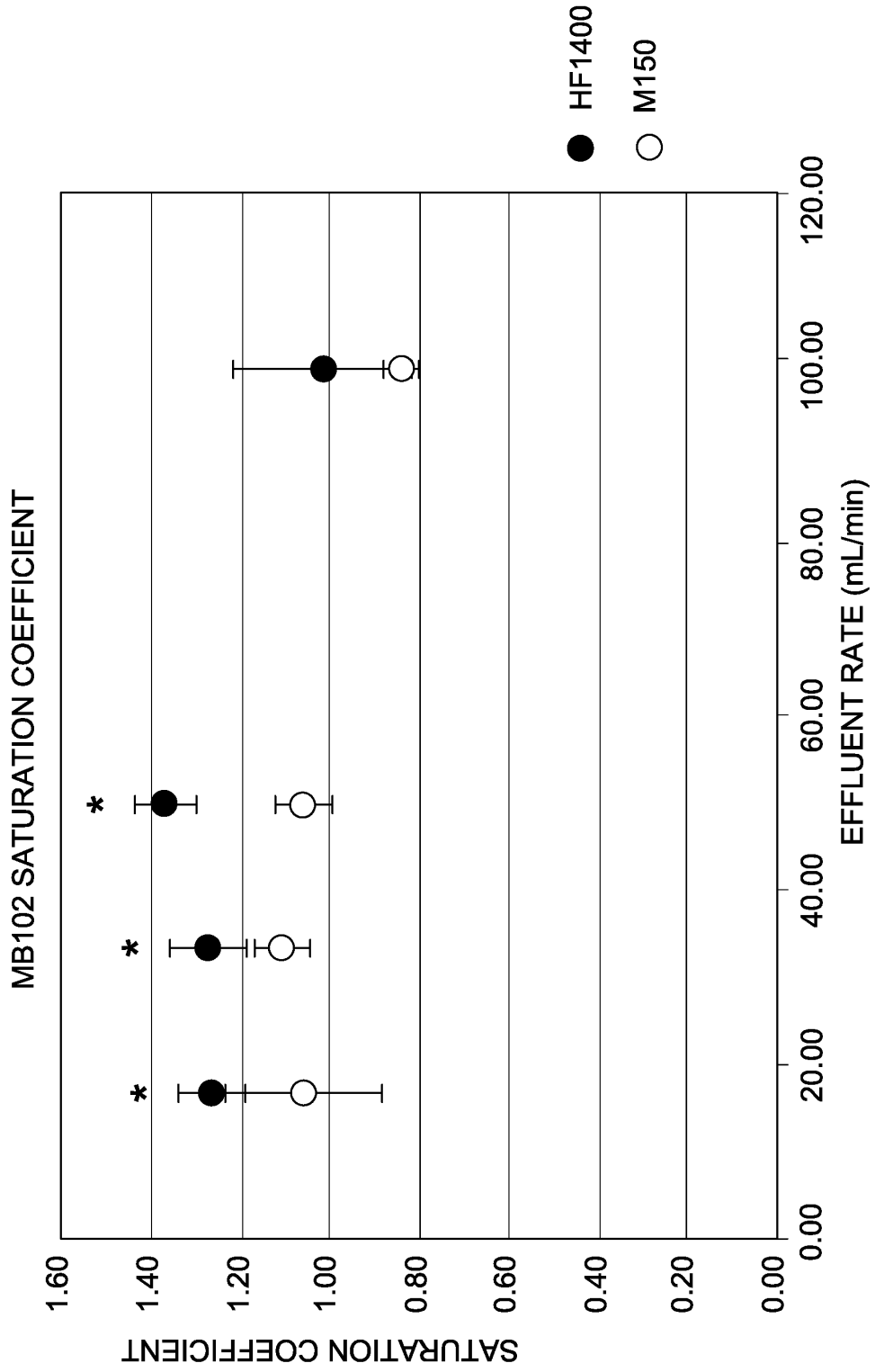

HF1400
M150
MB102 SATURATION COEFFICIENT
SATURATION COEFFICIENT
EFFLUENT RATE (mL/min)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
1.60
0.00
20.00
40.00
60.00
80.00
100.00
120.00
*
*
*

FIG. 4

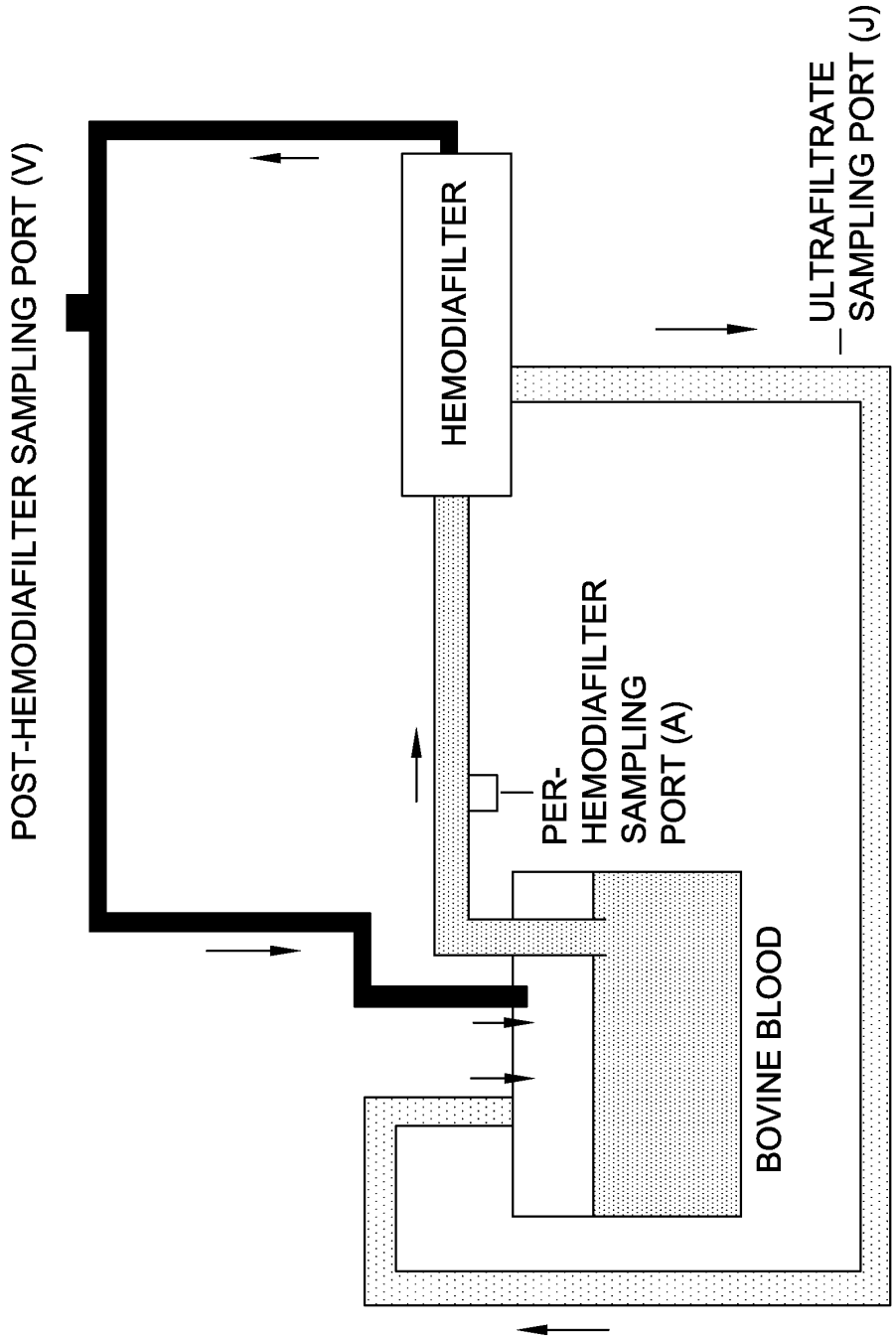

POST-HEMODIAFILTER SAMPLING PORT (V)
HEMODIAFILTER
ULTRAFILTRATE SAMPLING PORT (J)
PER-HEMODIAFILTER SAMPLING PORT (A)
BOVINE BLOOD

FIG. 5

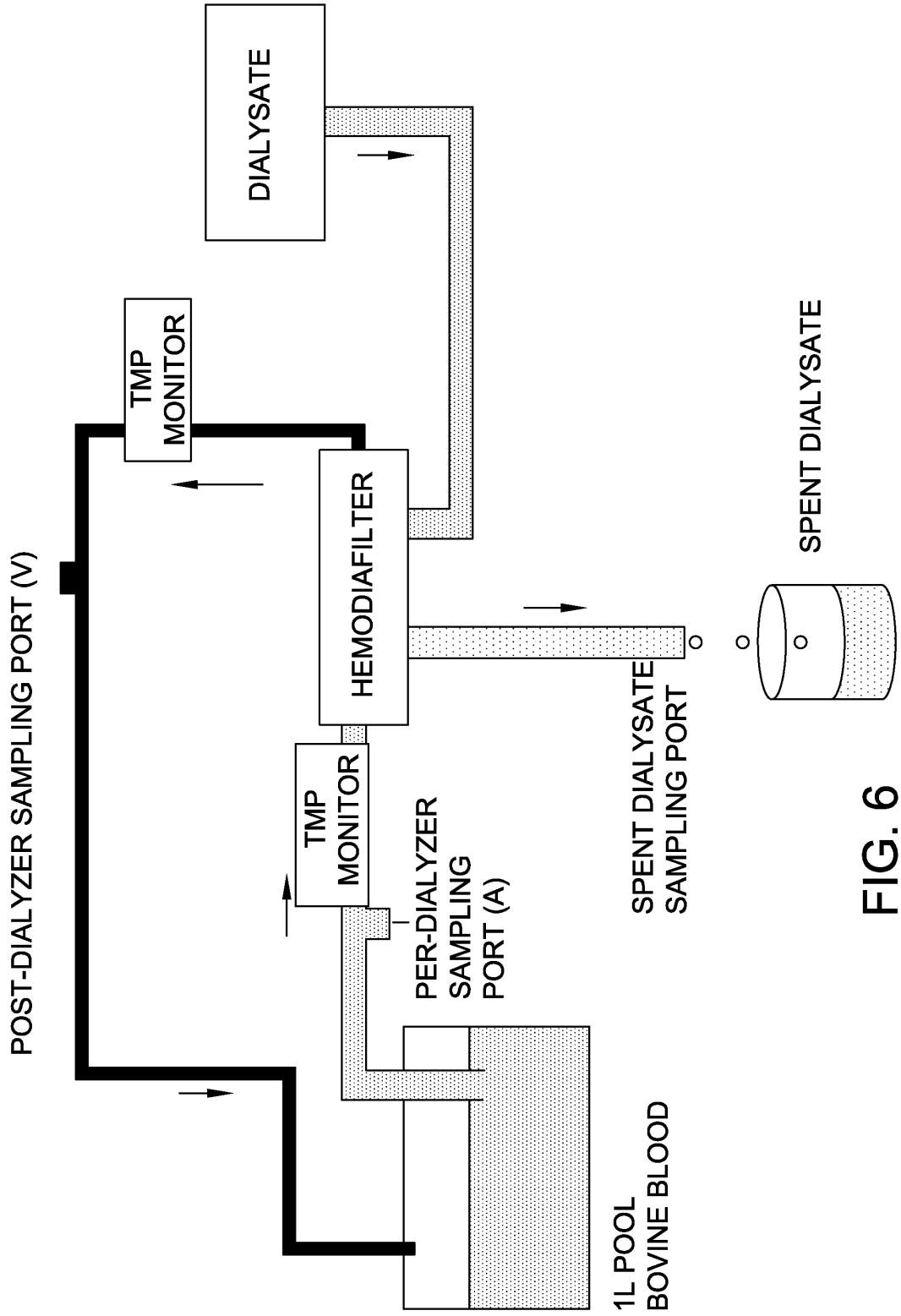

DIALYSATE
TMP MONITOR
HEMODIAFILTER
SPENT DIALYSATE
POST-DIALYZER SAMPLING PORT (V)
TMP MONITOR
PER-DIALYZER SAMPLING PORT (A)
SPENT DIALYSATE SAMPLING PORT
1L POOL BOVINE BLOOD

FIG. 6

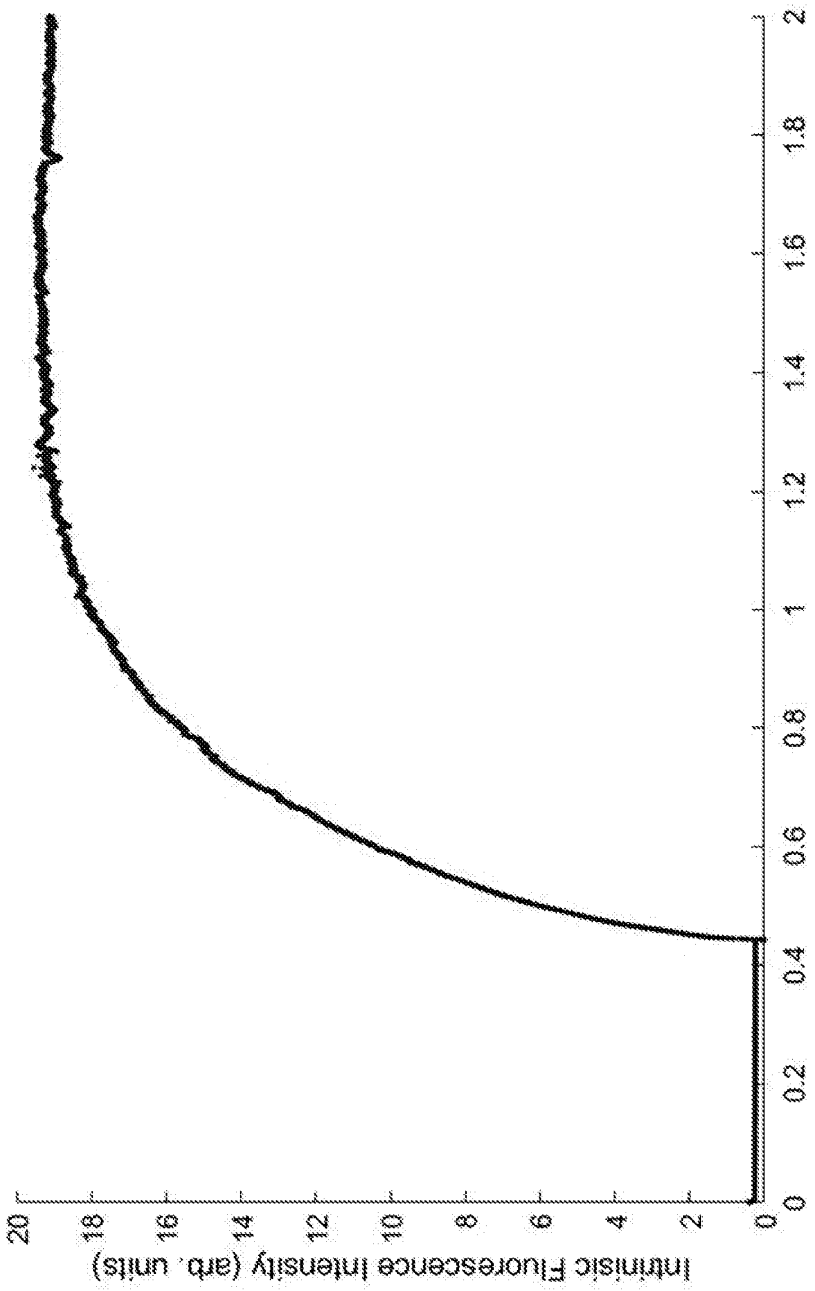

Intrinsic Fluorescence Intensity (arb. units)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Time (hours)

FIG. 7

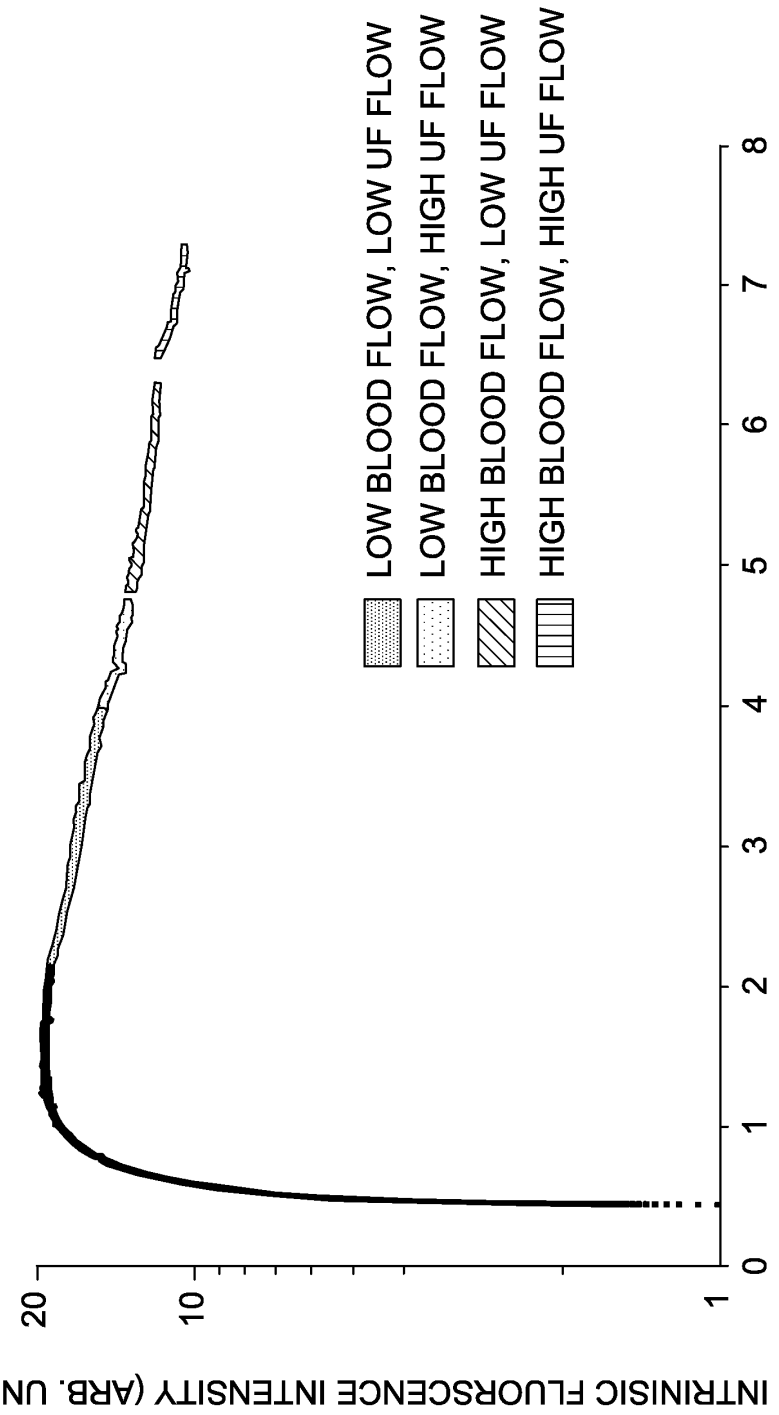

INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
20
10
1
0
1
2
3
4
5
6
7
8
TIME (HOURS)
LOW BLOOD FLOW, LOW UF FLOW
LOW BLOOD FLOW, HIGH UF FLOW
HIGH BLOOD FLOW, LOW UF FLOW
HIGH BLOOD FLOW, HIGH UF FLOW

FIG. 8

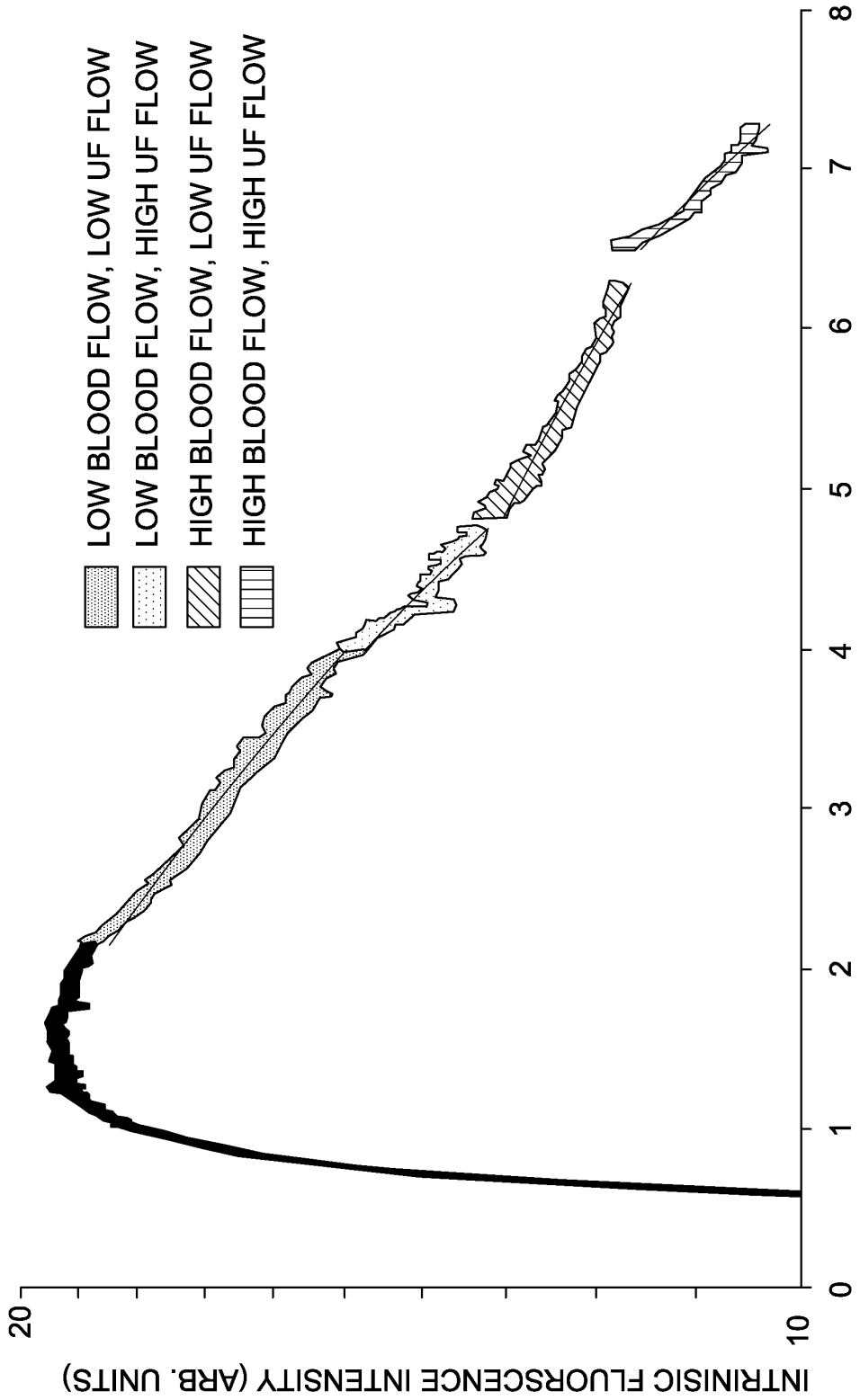

LOW BLOOD FLOW, LOW UF FLOW
LOW BLOOD FLOW, HIGH UF FLOW
HIGH BLOOD FLOW, LOW UF FLOW
HIGH BLOOD FLOW, HIGH UF FLOW
INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
20
10
0
1
2
3
4
5
6
7
8
TIME (HOURS)

FIG. 9

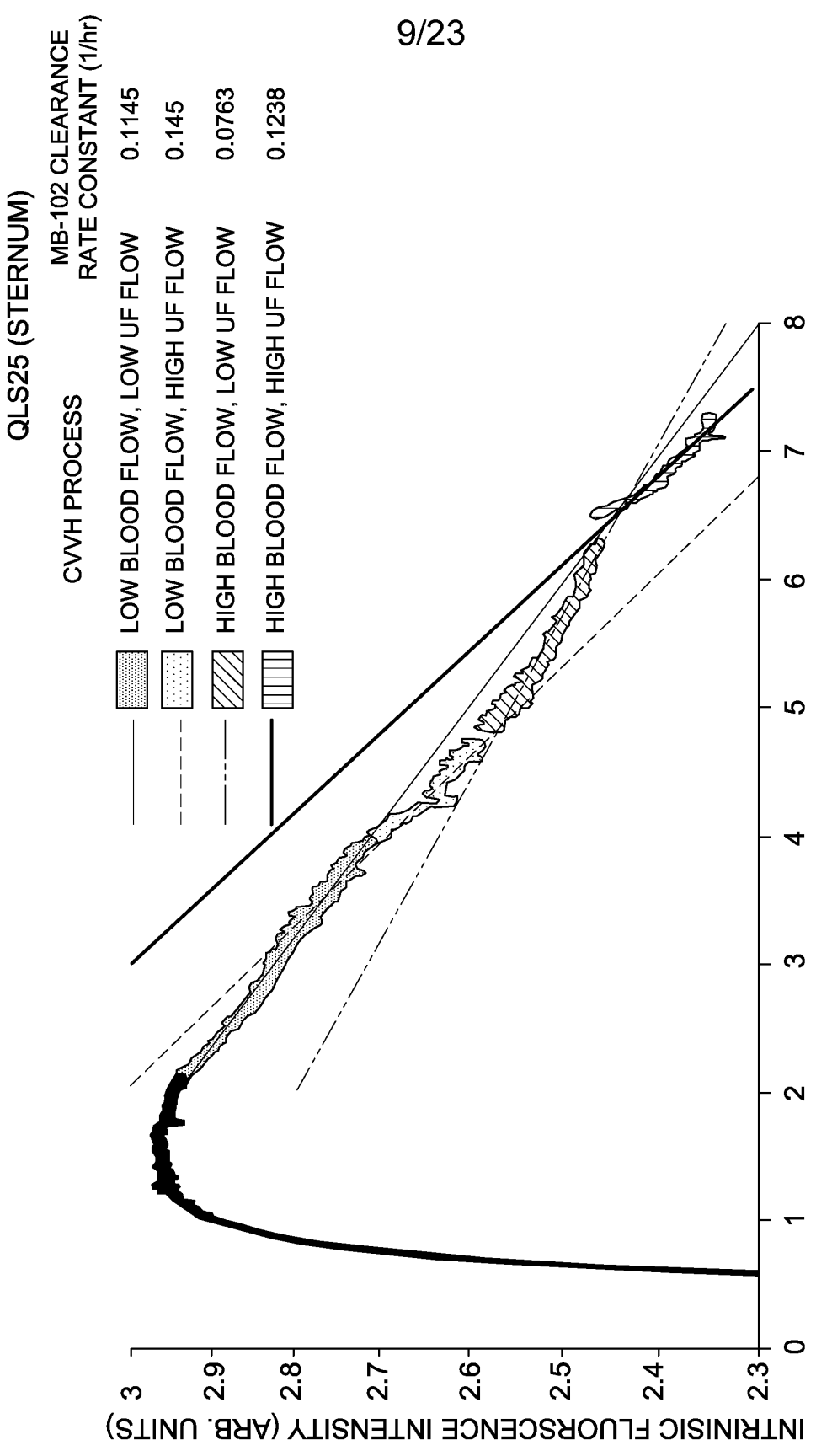

QLS25 (STERNUM)
CVVH PROCESS
MB-102 CLEARANCE RATE CONSTANT (1/hr)
LOW BLOOD FLOW, LOW UF FLOW 0.1145
LOW BLOOD FLOW, HIGH UF FLOW 0.145
HIGH BLOOD FLOW, LOW UF FLOW 0.0763
HIGH BLOOD FLOW, HIGH UF FLOW 0.1238
INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
0
1
2
3
4
5
6
7
8
TIME (HOURS)

FIG. 10

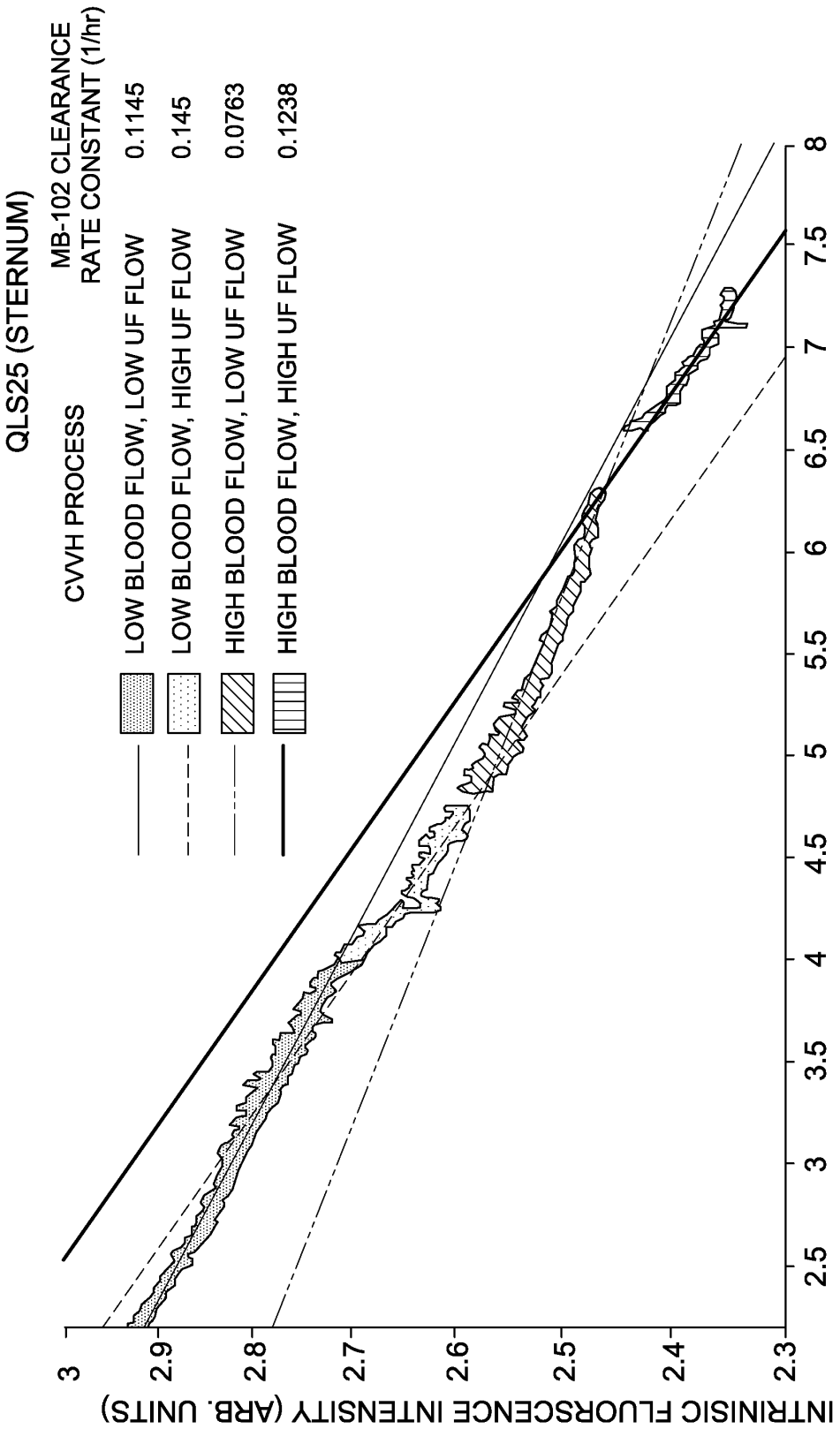

QLS25 (STERNUM)
CVVH PROCESS
MB-102 CLEARANCE RATE CONSTANT (1/hr)
LOW BLOOD FLOW, LOW UF FLOW 0.1145
LOW BLOOD FLOW, HIGH UF FLOW 0.145
HIGH BLOOD FLOW, LOW UF FLOW 0.0763
HIGH BLOOD FLOW, HIGH UF FLOW 0.1238
INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
8
TIME (HOURS)

FIG. 11

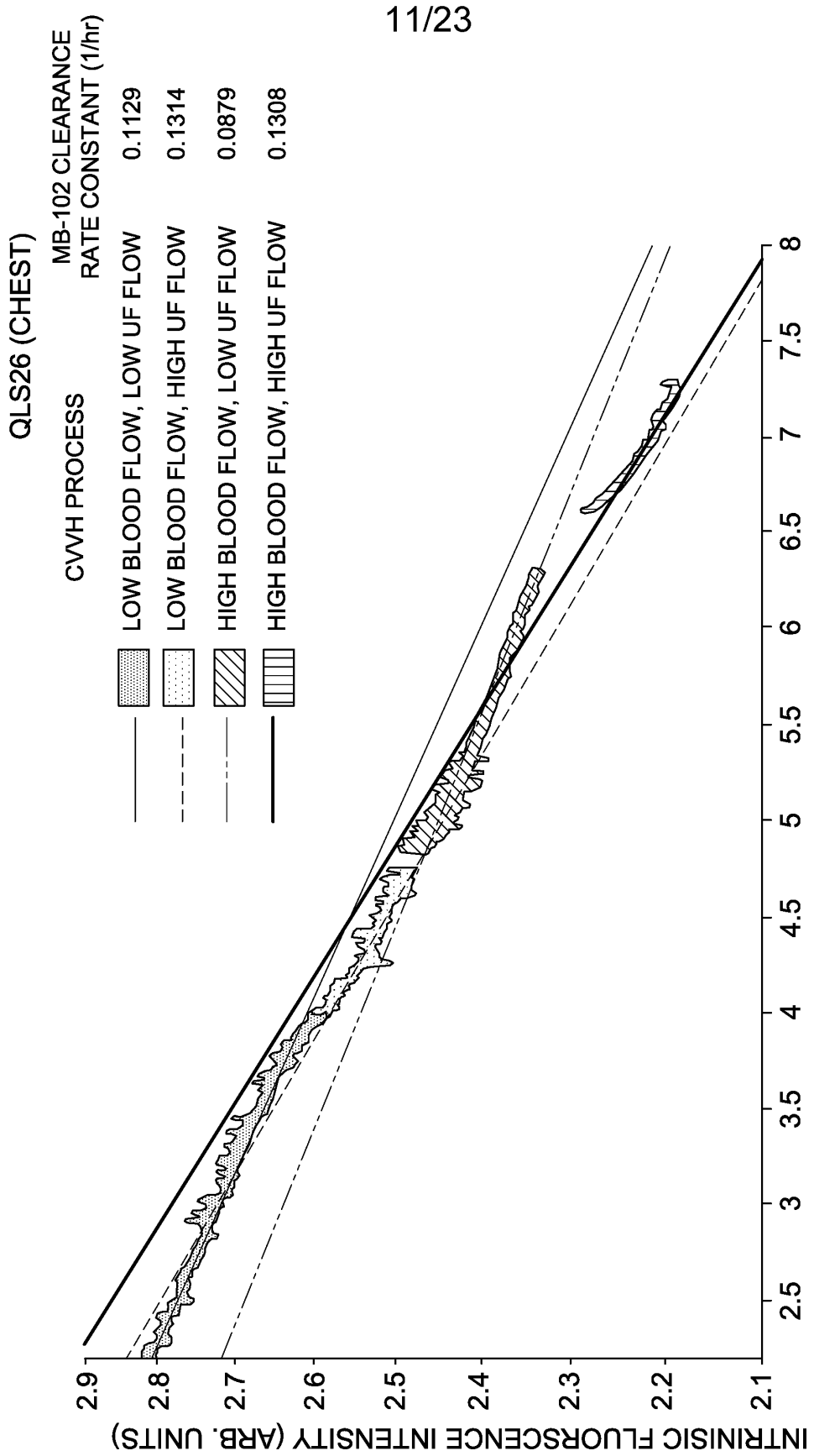

QLS26 (CHEST)
CVVH PROCESS
MB-102 CLEARANCE RATE CONSTANT (1/hr)
LOW BLOOD FLOW, LOW UF FLOW 0.1129
LOW BLOOD FLOW, HIGH UF FLOW 0.1314
HIGH BLOOD FLOW, LOW UF FLOW 0.0879
HIGH BLOOD FLOW, HIGH UF FLOW 0.1308
INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
8
TIME (HOURS)

FIG. 12

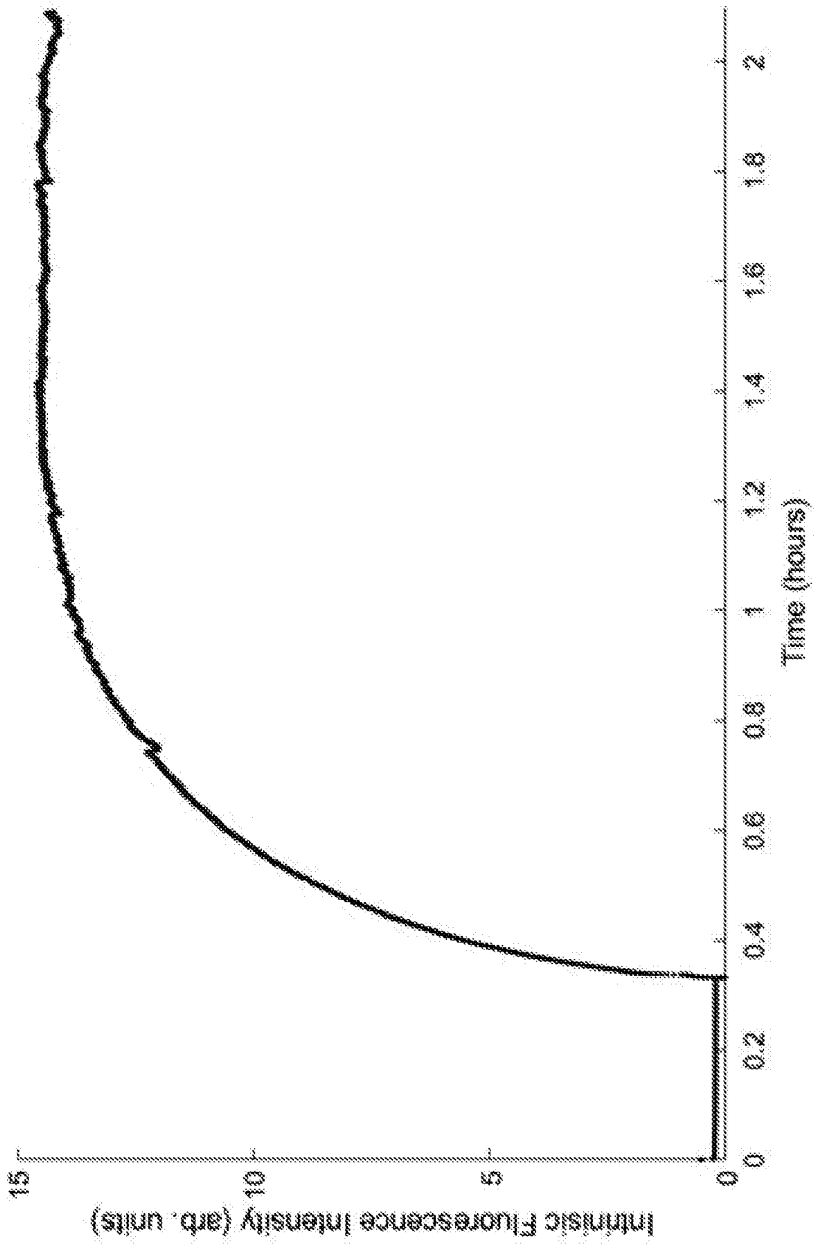

Intrinsic Fluorescence Intensity (arb. units)
15
10
5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Time (hours)

FIG. 13

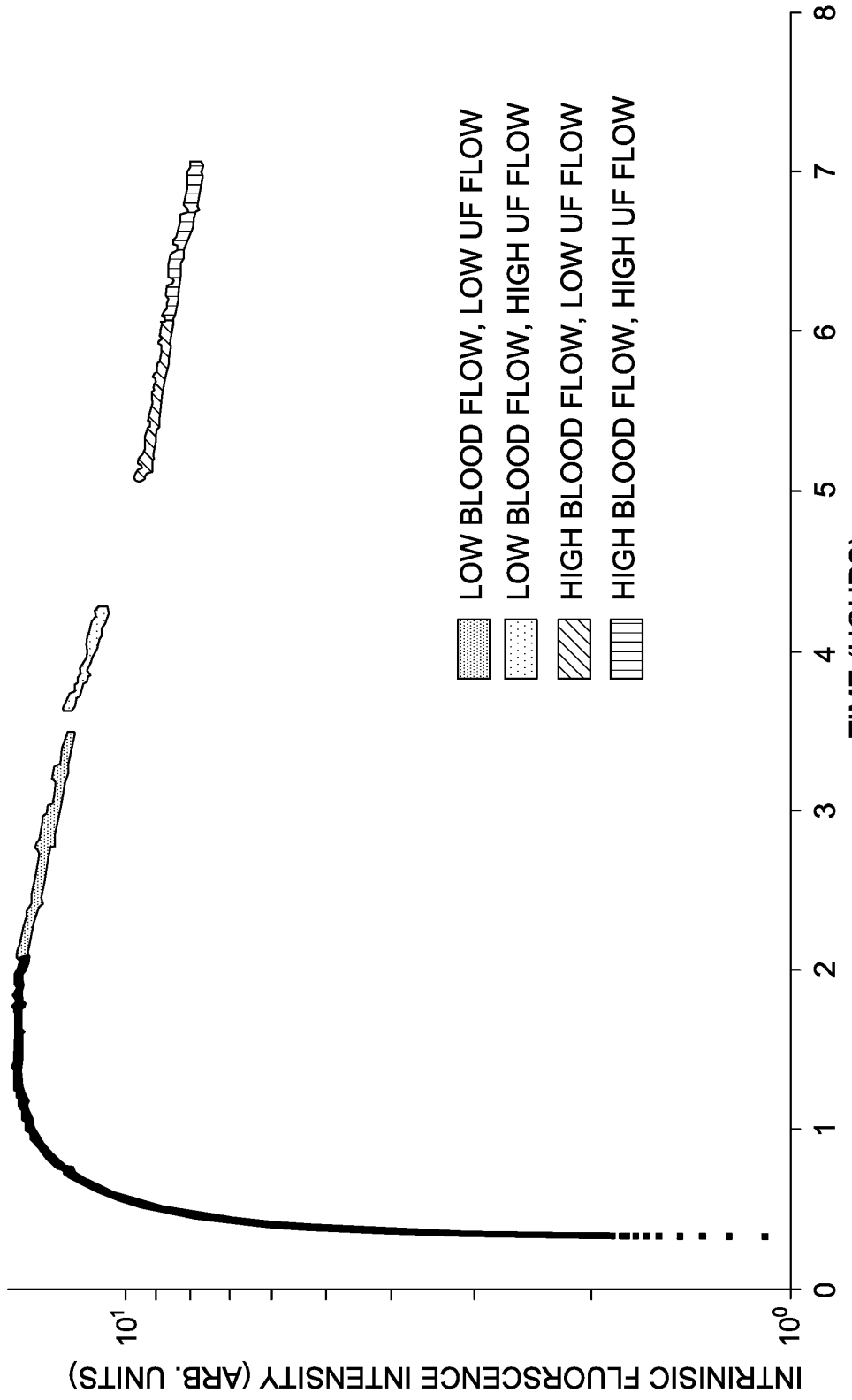

INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
10^1
10^0
0
1
2
3
4
5
6
7
8
TIME (HOURS)
LOW BLOOD FLOW, LOW UF FLOW
LOW BLOOD FLOW, HIGH UF FLOW
HIGH BLOOD FLOW, LOW UF FLOW
HIGH BLOOD FLOW, HIGH UF FLOW

FIG. 14

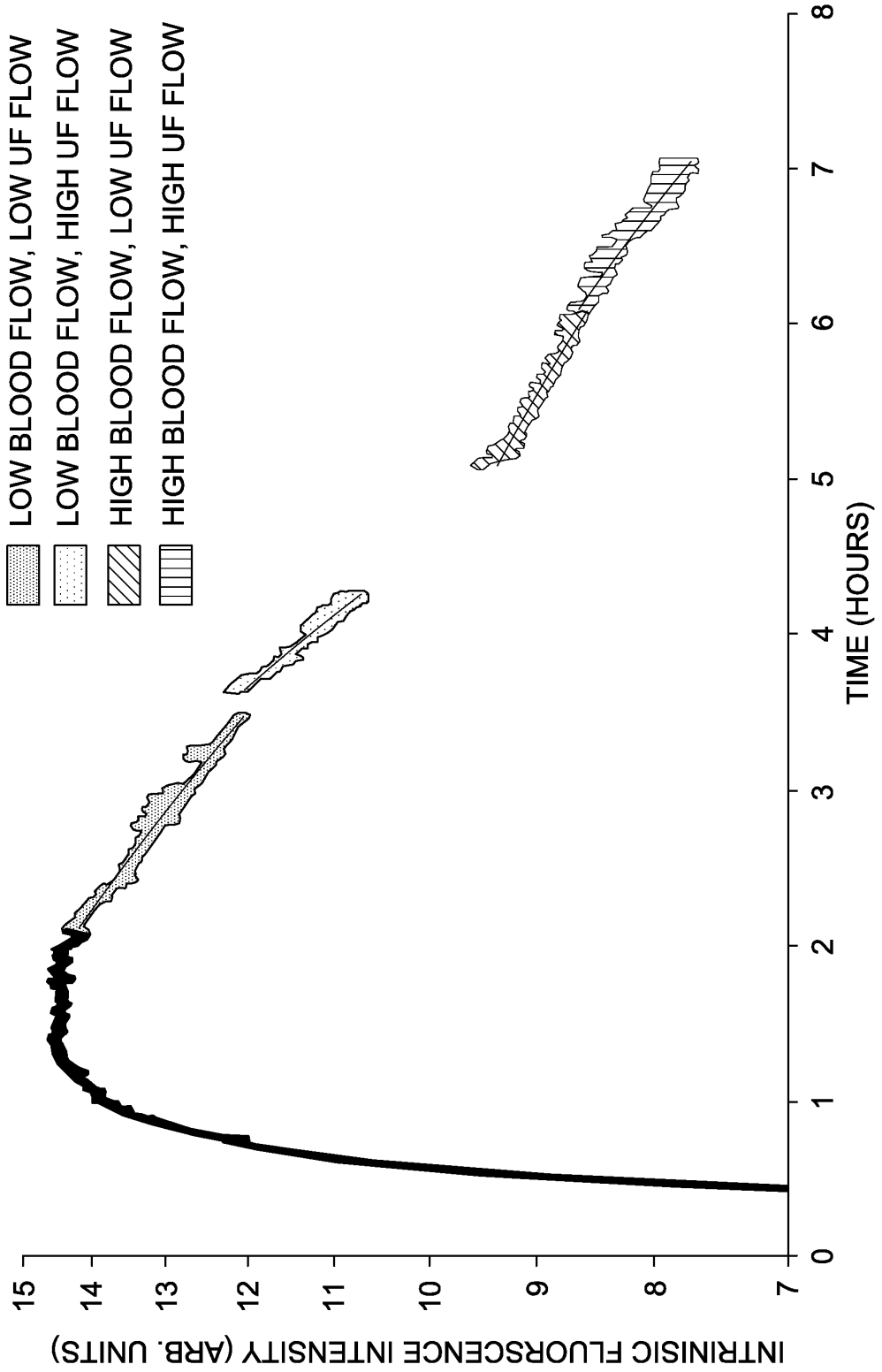

LOW BLOOD FLOW, LOW UF FLOW
LOW BLOOD FLOW, HIGH UF FLOW
HIGH BLOOD FLOW, LOW UF FLOW
HIGH BLOOD FLOW, HIGH UF FLOW
INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
15
14
13
12
11
10
9
8
7
0
1
2
3
4
5
6
7
8
TIME (HOURS)

FIG. 15

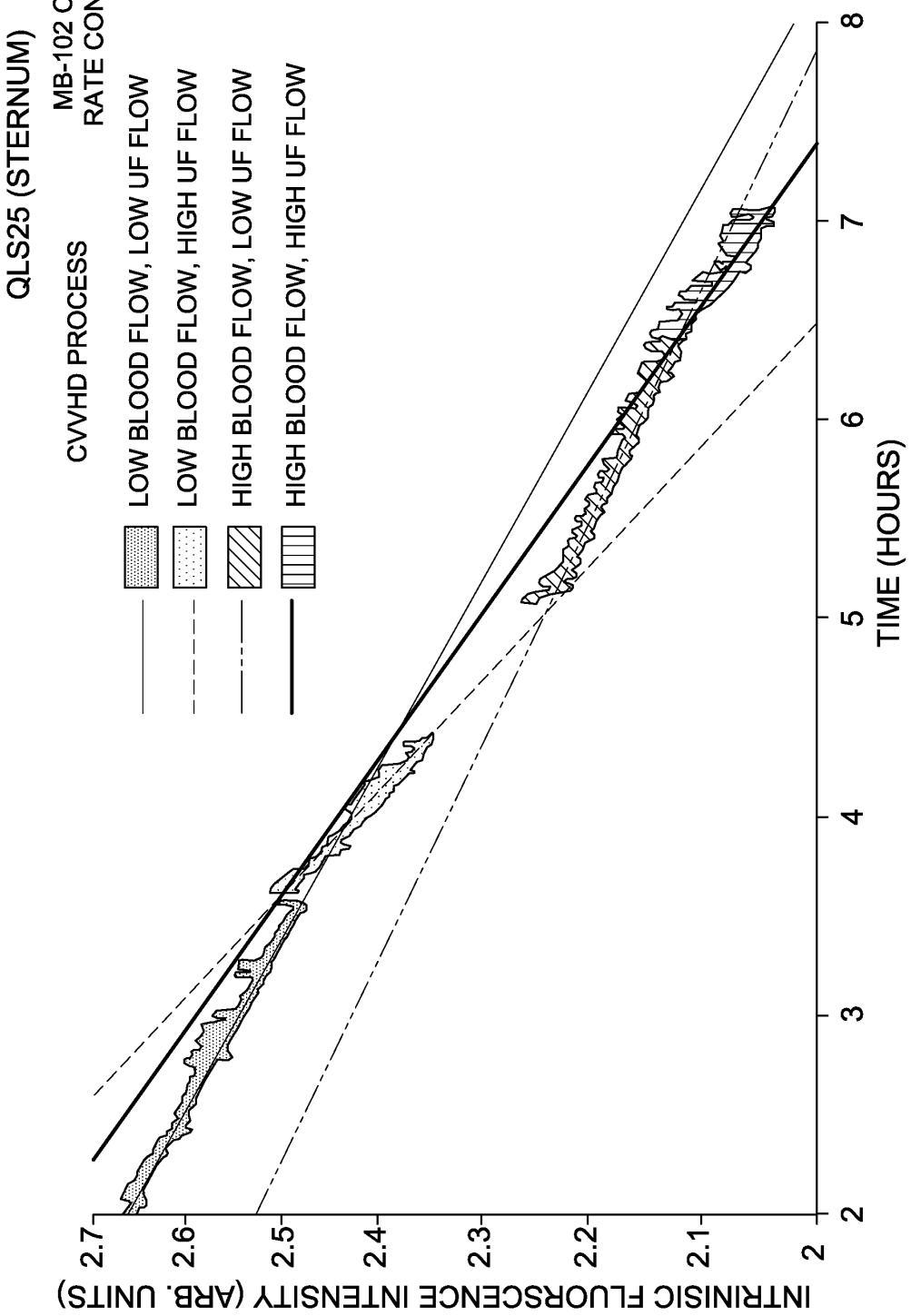

QLS25 (STERNUM)
CVVHD PROCESS
MB-102 CLEARANCE RATE CONSTANT (1/hr)
LOW BLOOD FLOW, LOW UF FLOW 0.1174
LOW BLOOD FLOW, HIGH UF FLOW 0.1870
HIGH BLOOD FLOW, LOW UF FLOW 0.0871
HIGH BLOOD FLOW, HIGH UF FLOW 0.1288
INTRINSIC FLUORESCENCE INTENSITY (ARB. UNITS)
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
2
3
4
5
6
7
8
TIME (HOURS)

FIG. 16

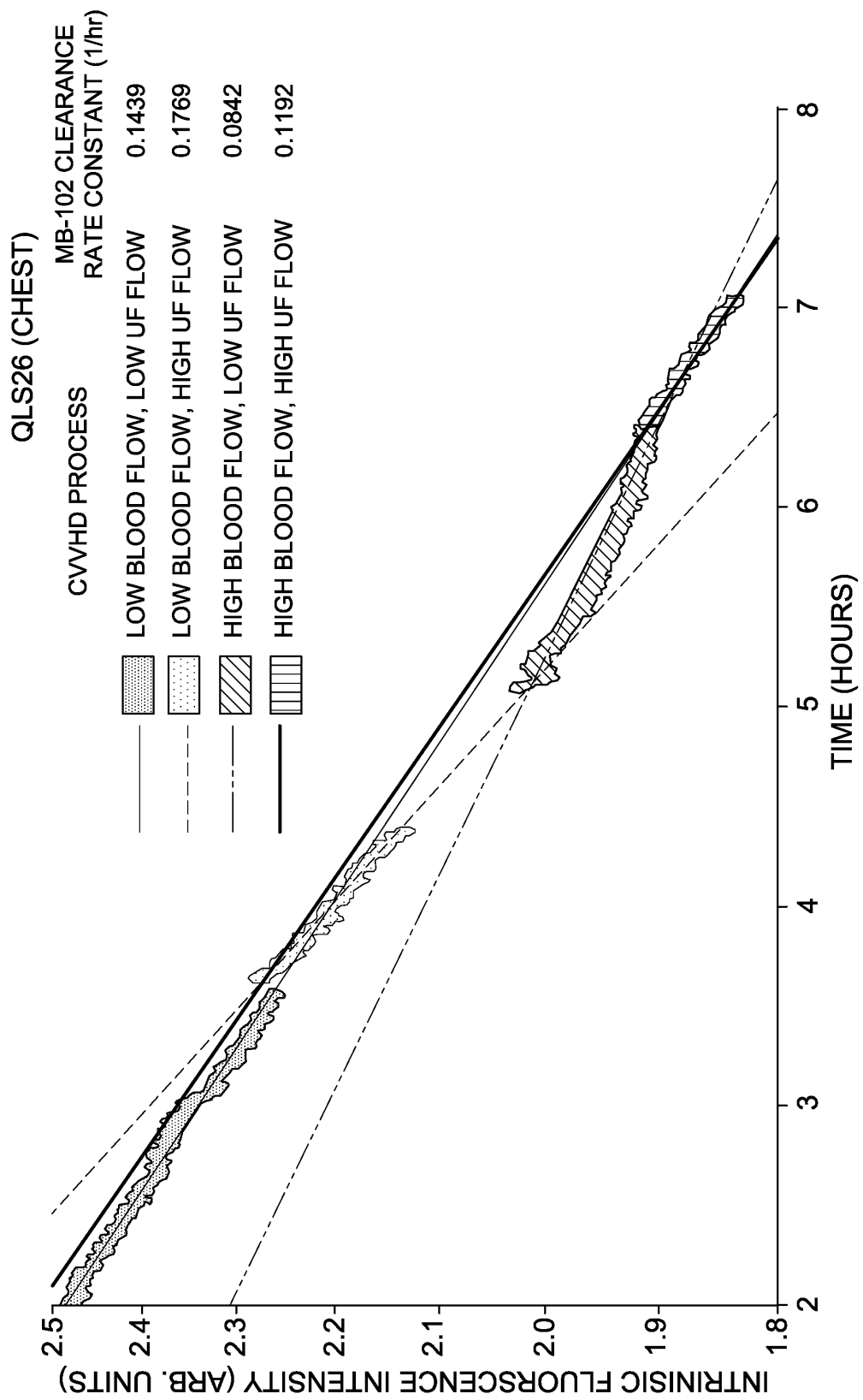

QLS26 (CHEST)
CVVHD PROCESS
MB-102 CLEARANCE RATE CONSTANT (1/hr)
LOW BLOOD FLOW, LOW UF FLOW 0.1439
LOW BLOOD FLOW, HIGH UF FLOW 0.1769
HIGH BLOOD FLOW, LOW UF FLOW 0.0842
HIGH BLOOD FLOW, HIGH UF FLOW 0.1192
INTRINSIC FLUORSCENCE INTENSITY (ARB. UNITS)
2.5
2.4
2.3
2.2
2.1
2.0
1.9
1.8
2
3
4
5
6
7
8
TIME (HOURS)

FIG. 17

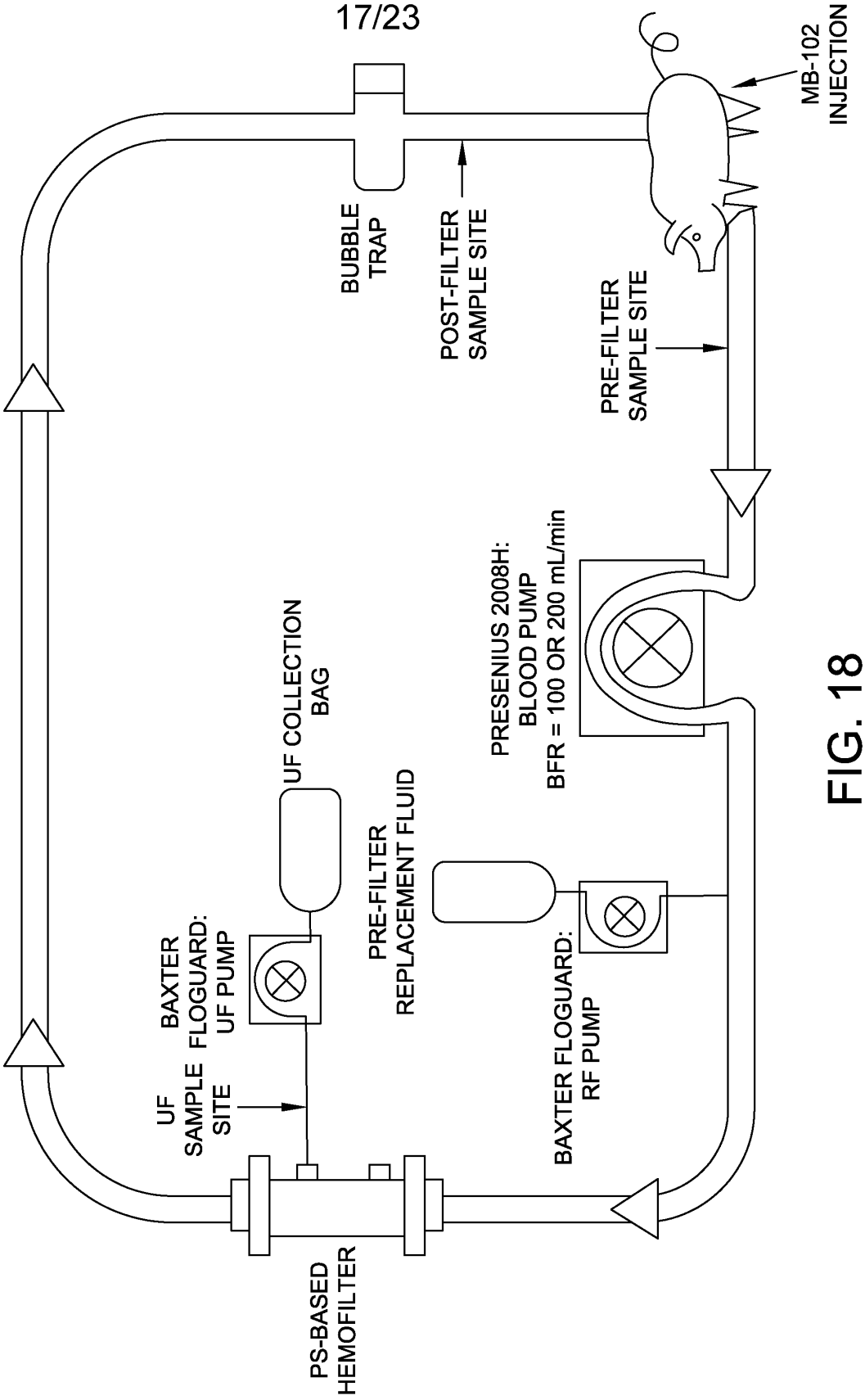

MB-102
INJECTION
BUBBLE
TRAP
POST-FILTER
SAMPLE SITE
PRE-FILTER
SAMPLE SITE
PRESENIUS 2008H:
BLOOD PUMP
BFR = 100 OR 200 mL/min
UF COLLECTION
BAG
PRE-FILTER
REPLACEMENT FLUID
BAXTER
FLOGUARD:
UF PUMP
UF
SAMPLE
SITE
BAXTER FLOGUARD:
RF PUMP
PS-BASED
HEMOFILTER

FIG. 18

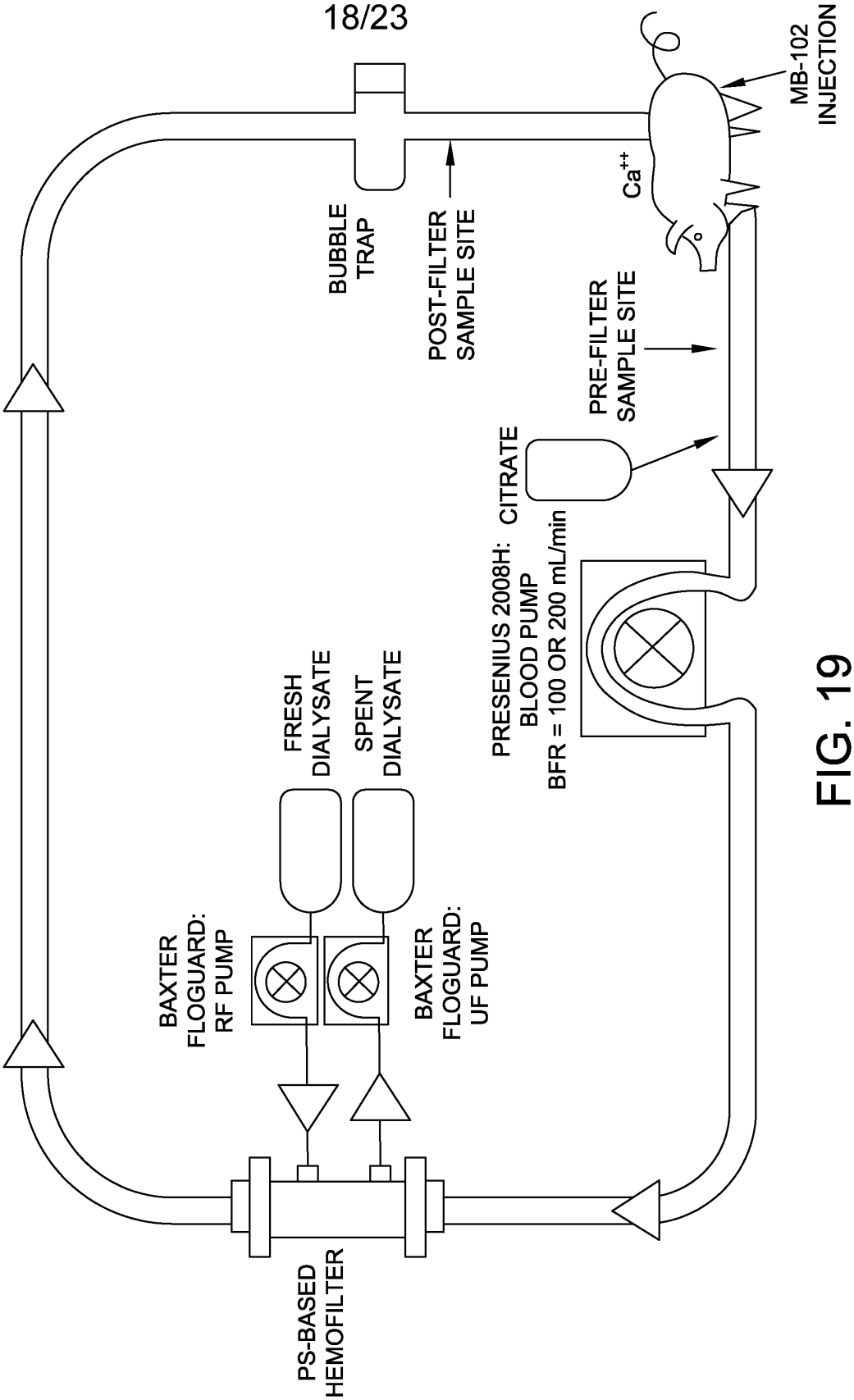

MB-102
INJECTION
Ca^{++}
BUBBLE
TRAP
POST-FILTER
SAMPLE SITE
PRE-FILTER
SAMPLE SITE
CITRATE
PRESENIUS 2008H:
BLOOD PUMP
BFR = 100 OR 200 mL/min
FRESH
DIALYSATE
SPENT
DIALYSATE
BAXTER
FLOGUARD:
RF PUMP
BAXTER
FLOGUARD:
UF PUMP
PS-BASED
HEMOFILTER

FIG. 19

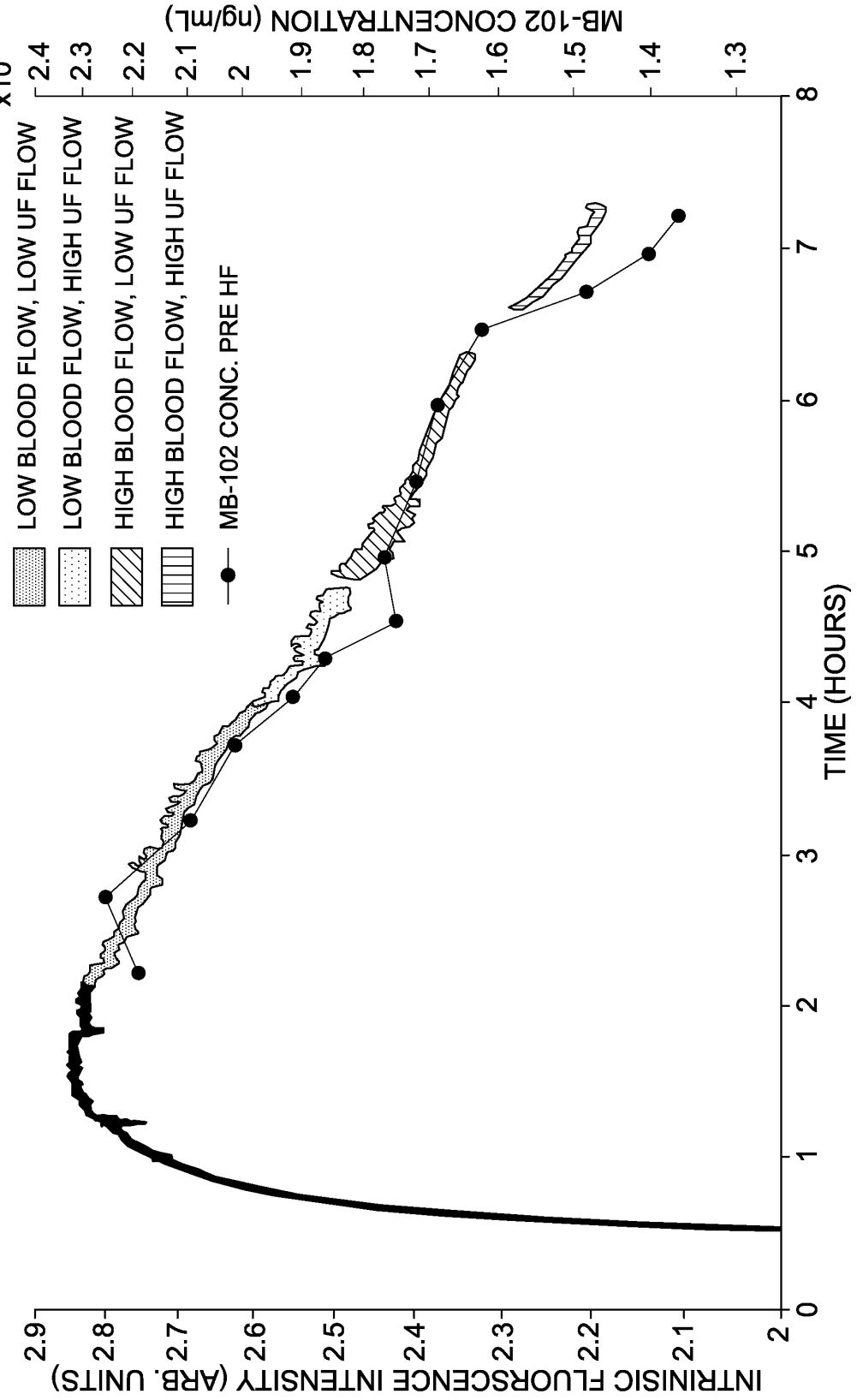

INTRINSIC FLUORESCENCE INTENSITY (ARB. UNITS)
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
0
1
2
3
4
5
6
7
8
TIME (HOURS)
x10^4
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
MB-102 CONCENTRATION (ng/mL)
LOW BLOOD FLOW, LOW UF FLOW
LOW BLOOD FLOW, HIGH UF FLOW
HIGH BLOOD FLOW, LOW UF FLOW
HIGH BLOOD FLOW, HIGH UF FLOW
MB-102 CONC. PRE HF

FIG. 20

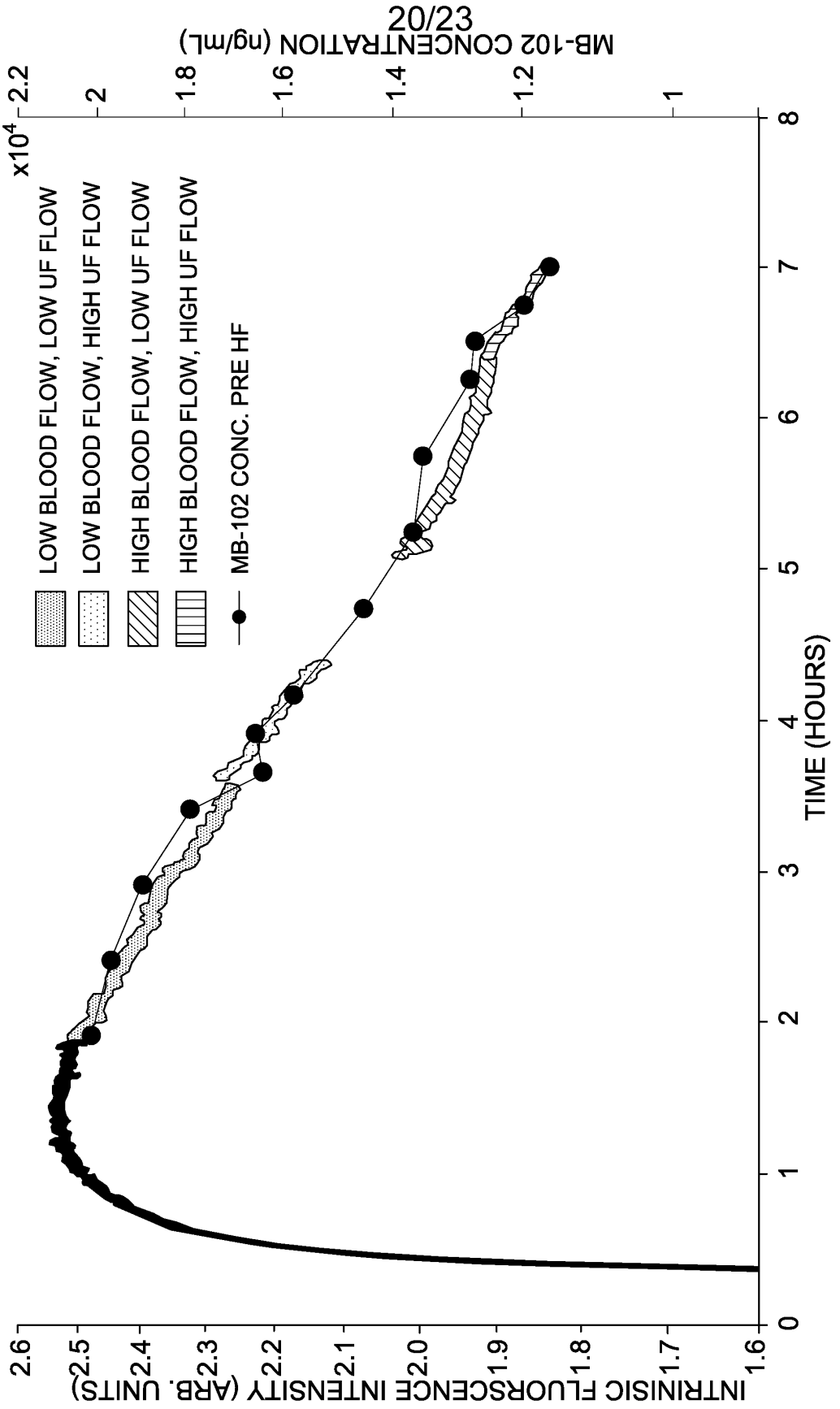

INTRINSIC FLUORESCENCE INTENSITY (ARB. UNITS)
x10^4
2.6
2.5
2.4
2.3
2.2
2.1
2.0
1.9
1.8
1.7
1.6
MB-102 CONCENTRATION (ng/mL)
2.2
2
1.8
1.6
1.4
1.2
1
0
1
2
3
4
5
6
7
8
TIME (HOURS)
LOW BLOOD FLOW, LOW UF FLOW
LOW BLOOD FLOW, HIGH UF FLOW
HIGH BLOOD FLOW, LOW UF FLOW
HIGH BLOOD FLOW, HIGH UF FLOW
MB-102 CONC. PRE HF

FIG. 21

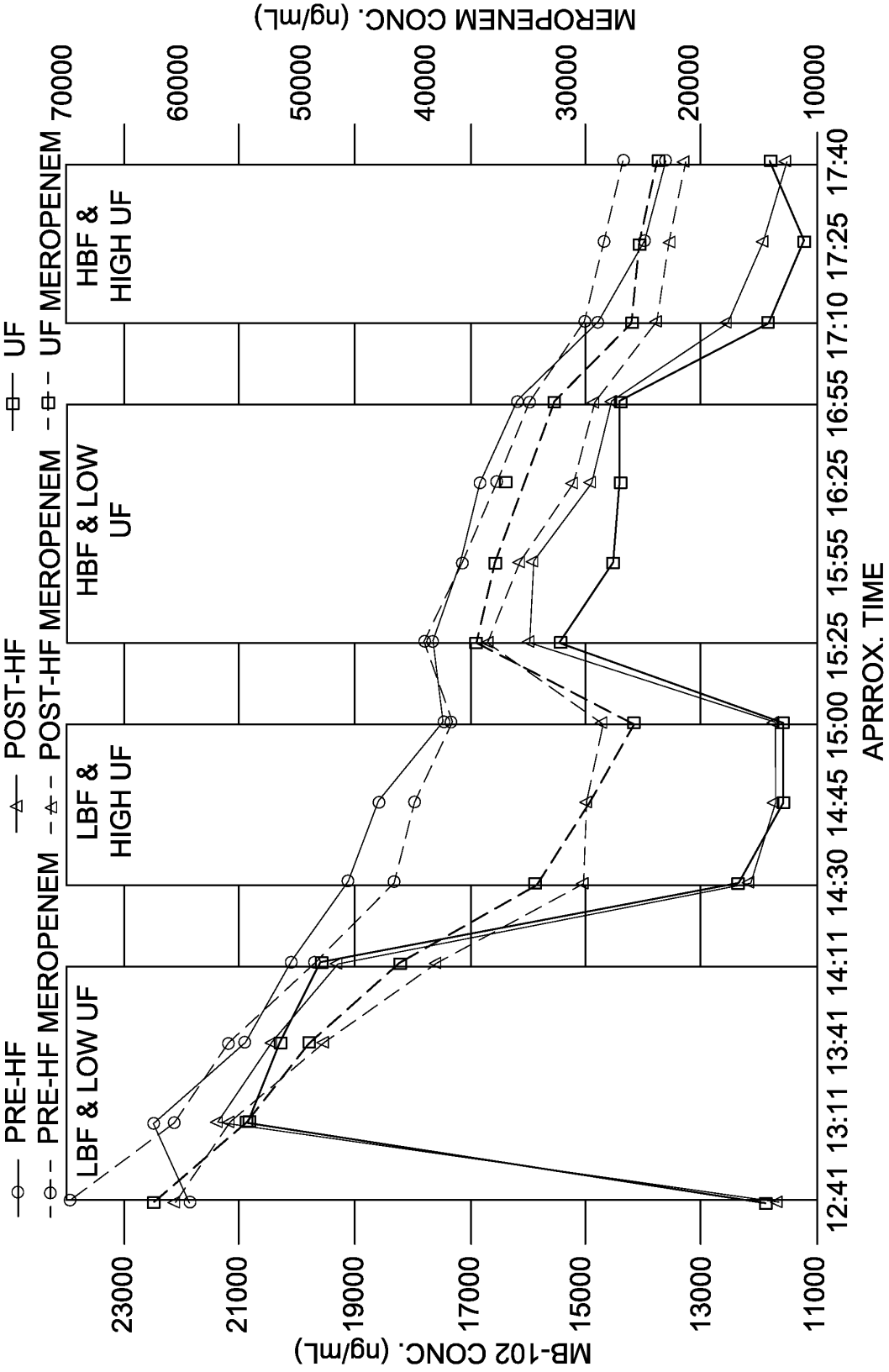

MB-102 CONC. (ng/mL)
MEROPENEM CONC. (ng/mL)
APPROX. TIME
PRE-HF
PRE-HF MEROPENEM
POST-HF
POST-HF MEROPENEM
UF
UF MEROPENEM
LBF & LOW UF
LBF & HIGH UF
HBF & LOW UF
HBF & HIGH UF
23000
21000
19000
17000
15000
13000
11000
70000
60000
50000
40000
30000
20000
10000
12:41
13:11
13:41
14:11
14:30
14:45
15:00
15:25
15:55
16:25
16:55
17:10
17:25
17:40

FIG. 22

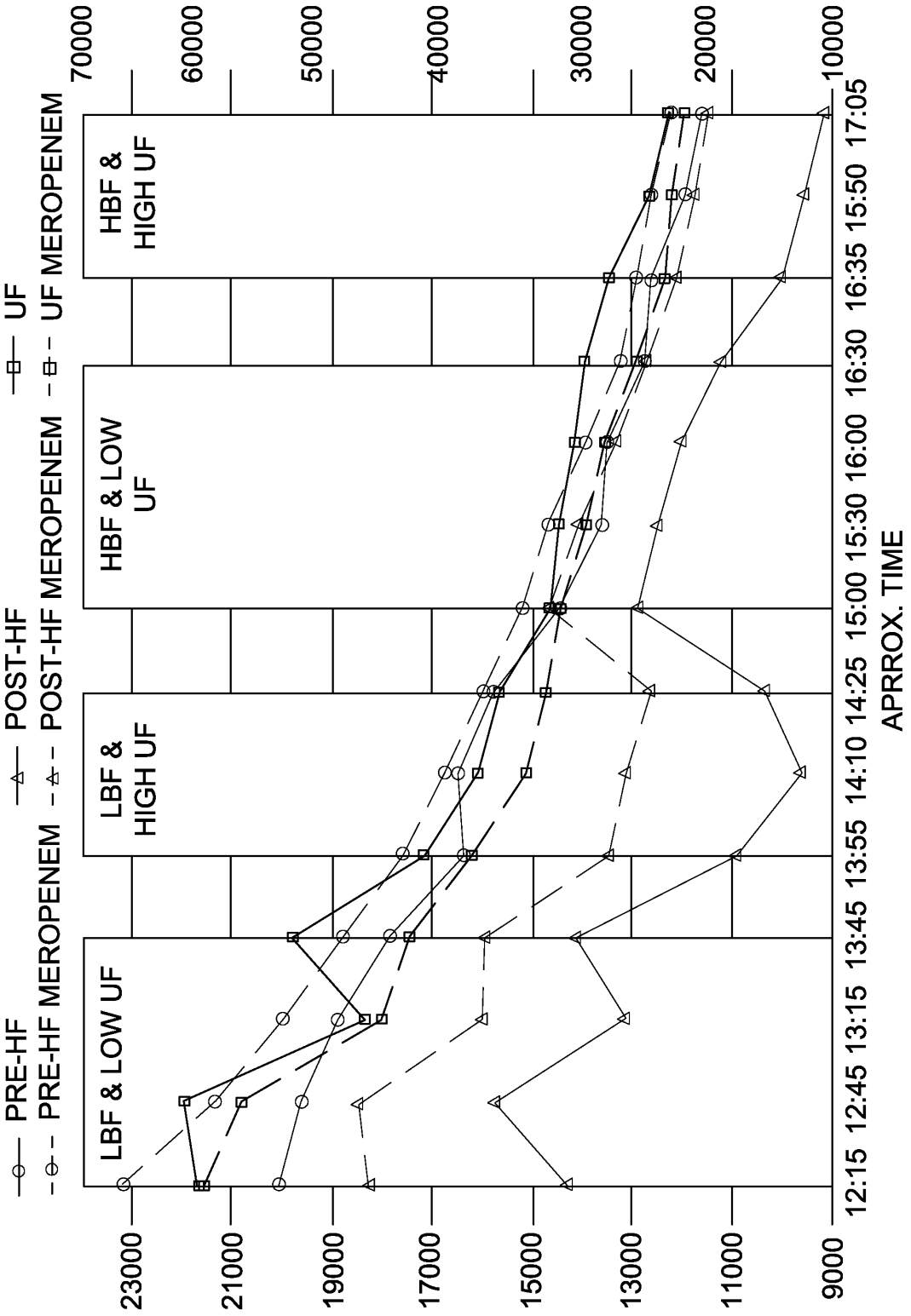

MEROPENEM CONC. (ng/mL)
70000
60000
50000
40000
30000
20000
10000
PRE-HF
PRE-HF MEROPENEM
POST-HF
POST-HF MEROPENEM
UF
UF MEROPENEM
LBF & LOW UF
LBF & HIGH UF
HBF & LOW UF
HBF & HIGH UF
23000
21000
19000
17000
15000
13000
11000
9000
12:15 12:45 13:15 13:45 13:55 14:10 14:25 15:00 15:30 16:00 16:30 16:35 15:50 17:05
APRROX. TIME

FIG. 23

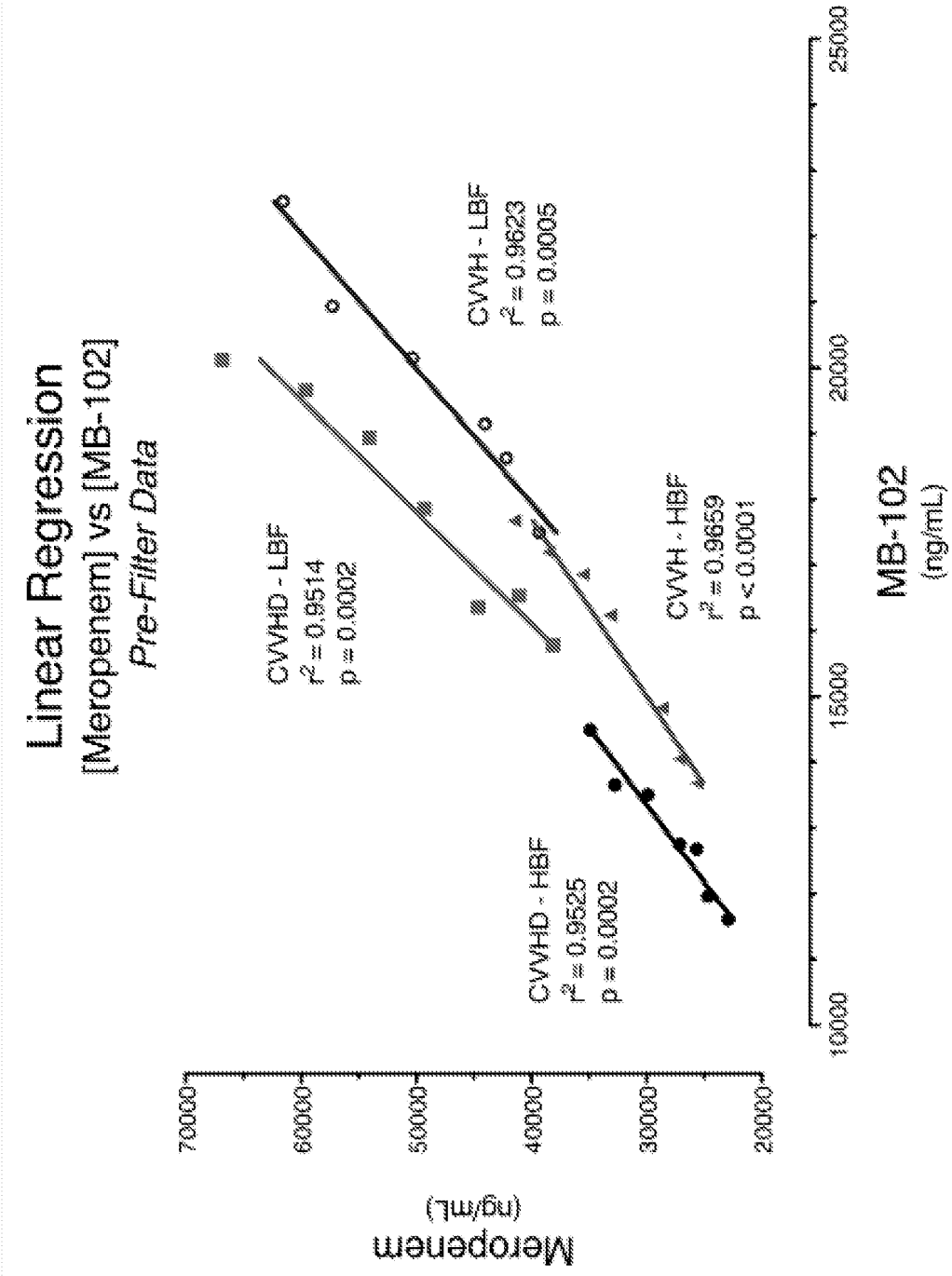

Linear Regression
[Meropenem] vs [MB-102]
Pre-Filter Data
CVVHD - LBF
r² = 0.9514
p = 0.0002
CVVH - LBF
r² = 0.9623
p = 0.0005
CVVHD - HBF
r² = 0.9525
p = 0.0002
CVVH - HBF
r² = 0.9659
p < 0.0001
Meropenem
(ng/mL)
70000
60000
50000
40000
30000
20000
10000
15000
20000
25000
MB-102
(ng/mL)

FIG. 24